

Shorter Notes

NOTES ON *WOODWARDIA AREOLATA* AND OTHER RARE ILLINOIS FERNS.—On January 7, 1967 I discovered *Woodwardia areolata* (L.) Moore in a marshy seep spring nine miles northeast of Paducah, Kentucky, in southern Pope County (*Schwegman 1089*). Since this collection was of dead material, I returned to collect some live specimens on June 17, 1967 (*Schwegman 1250*). Both specimens are in the herbarium of Southern Illinois University (SIU). This station is about 40 miles north of stations for the Net-veined Chain Fern in Calloway County, Kentucky, and about 80 miles northeast of the stations in southeastern Missouri. The seep spring in which the specimens were found is a common habitat in the area of sandy, Cretaceous hills in southern Illinois. I have visited about 40 springs, but have found no other stands of *Woodwardia*. The *Woodwardia* dominates about a third of the spring, which measures about 40 feet long and 25 feet wide. The spring is in a dry oak-hickory woods, but *Acer rubrum* grows at its edge. *Boehmeria cylindrica* dominates another part of the spring, and *Impatiens biflora*, *Polygonum punctatum*, *Carex incompta*, *C. crinita*, *C. laevivaginata*, and *C. lurida* are also present. The only other fern at this spring is *Athyrium filix-femina*. Ferns typical of adjacent springs include *Athyrium filix-femina*, *Onoclea sensibilis*, *Osmunda regalis*, *O. cinnamomea*, and *Thelypteris palustris*. *Ophioglossum vulgatum* was seen at one spring.

Thelypteris noveboracensis (L.) Nieuwl. is rare in Illinois. The only previous specimen from southern Illinois was collected in Jackson County in 1880. I collected the New York Fern in damp, sandy soil of a small seep spring about 2.5 miles northwest of the *Woodwardia* station and 3.5 miles southwest of Bay City, Pope County, on June 27, 1967 (*Schwegman 1268*, SIU). The spring is on a north-facing wooded slope; the habitat is only slightly more moist than average for this hillside. The fern is in a circular stand about six feet in diameter. It is surrounded by *Athyrium filix-femina*, which it superficially resembles.

Dryopteris goldiana (Hook.) Gray is seldom collected in Illinois, and apparently is very rare in the southern half of the state; the only previous collection is from Jackson County. I discovered clumps of this fern growing with *D. marginalis* in rocky woods at the base of a north-facing hill along Lusk Creek, SW $\frac{1}{4}$, S21, T12S, R6E, Pope County, on August 18, 1967 (*Schwegman 1367*, SIU).

I found *Ophioglossum engelmannii* Prantl, a fern of exposed limestone habitats, growing rather abundantly in limestone hill prairie on Millstone Knob, which is near Robbs, Pope County, on June 4, 1966 (*Schwegman 454*, SIU).

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A SPINY DENNSTAEDTIA FROM CENTRAL AMERICA.—During a course in tropical pteridophytes for the Organization for Tropical Studies last summer in Costa Rica, I found a new species of *Dennstaedtia* which is remarkable in having spiny stipes, rachises, and pinna axes, a condition found in no other New World species of the genus.

DENNSTAEDTIA **spinosa** Mickel, sp. nov.

Fronde fere 2 m longae, axibus spinulosis, spinulis usque ad 3 mm longis rectis vel paullo antrorsis; laminae quadripinnati-pinnatifidae; pinnae alternae, supra nitentes et fere glabrae, subtus hirsutae, pilis rectis hyalinis; venae apice tenues; indusia humilia lata plus minusve bivalvata, integra vel irregulariter dentata; sporae triletae, rugosae, rugis brevibus latis irregulariter coalescentibus.

Rhizomes creeping, clothed with black hairs; fronds nearly 2 m long; axes orange, spiny, the spines up to 3 mm long, straight or slightly antrorse; stipes ca. 1 m long, 1 cm thick; blades approx. 1 m long, 1 m broad, deltoid, quadripinnate-pinnatifid, lacy; pinnae alternate, short-petiolate (to 12 mm); basal pinnules opposite, not or only slightly reduced, the larger 10–13 cm long, 2.5–3 cm broad; laminae hirsute beneath with straight, hyaline